

REMARKS

This Amendment responds to the Office Action dated April 13, 2010 in which the Examiner rejected claims 1-10 under 35 U.S.C. § 103.

As indicated above, claims 1 and 8-10 have been amended in order to make explicit what is implicit in the claims. The amendment is unrelated to a statutory requirement for patentability.

Claim 1 claims a recording control apparatus. Claim 8 claims a recording control method, claim 9 claims a computer program and claim 10 claims a computer readable storage medium. The apparatus, method, program and storage medium include extracting video and audio data for each frame for reproduction of one frame of an image, extracting frame metadata for each frame for reproduction of the frame metadata, recording the frame metadata for each frame physically adjacent the video and audio data recorded for each frame so that the video and audio data and frame metadata which have a same reproduction time data are periodically arranged at close positions in a circumferential direction of an optical disk in the form of angular rings and only after all first and second data series are finished being recorded on the optical disk in the form of annular rings, recording a third data series onto the optical disk so that the third data series is physically arranged on the optical disk independently of the periodically arranged first and second data series. The third data series is separately recorded in a contiguous manner and is clip metadata recorded for each clip.

By recording the video and audio data and frame metadata having a same reproduction time periodically at close positions on the optical disk in the form of annular rings, as claimed in claims 1 and 8-10, the claimed invention provides an apparatus, method, computer program and storage medium which minimizes the occurrence of a seek operation thereby achieving high-

speed reproduction. The prior art does not show, teach or suggest the invention as claimed in claims 1 and 8-10.

Claims 1-10 were rejected under 35 U.S.C. § 103 as being unpatentable over *Brook, et al.* (U.S. Publication No. 2003/0146915), *Tezuka, et al.* (U.S. Patent No. 5,206,850) and *David* (U.S. Publication No. 2002/0131763).

Brook, et al. appears to disclose a user maintains original footage on a magneto-optic disk (MOD) 512 upon which the footage was originally stored when it was captured on a DDC 204 [0132]. When the user has captured and stored new media data on the MOD 512, the GUI system 300 can be used to analyze the content of the disk. This analysis involves generating and storing meta-data for every shot stored on the MOD 512. The meta-data stored on the MOD 512 is both the meta-data provided by the DDC 204 during recording time, and that metadata obtained thereafter by content analysis [0135].

Thus, *Brook, et al.* merely discloses storing media data and metadata on MOD 512. However, nothing in *Brook, et al.* shows, teaches or suggests the physical layout of the disk. In particular, nothing in *Brook, et al.* shows, teaches or suggests (a) recording frame metadata for each frame physically adjacent video and audio data recorded for each frame and (b) the video and audio data and the frame metadata, which have a same reproduction time, are periodically arranged at close positions in a circumferential direction of the optical disk in for the form of annular rings respectively as claimed in claims 1 and 8-10. Rather, *Brook, et al.* only discloses storing the metadata and media data on the MOD 512 but does not disclose the physical layout thereof.

Additionally, *Brook, et al.* merely discloses in Figure 22 a summary of the metadata information as stored in an attribute structure 2202. The structure contains flags 2204,

2206,...2208, a segment list 2210 containing any number of segment structures 2212, 2214,...2218 [0281]. The attribute structure also points 2216 to a frame metadata file 2220 that contains detailed attribute information about each frame 2222, 2224,...2226 of the media data [0282].

Thus, Figure 22 of *Brook, et al.* only discloses a structure for storing the metadata information. Nothing in *Brook, et al.* shows, teaches or suggests (a) recording frame metadata for each frame physically adjacent the video and audio data recorded for each frame and (b) the video and audio data and frame metadata, which have a same reproduction time, are periodically arranged at close positions in a circumferential direction of the optical disk in the form of annular rings respectively as claimed in claims 1 and 8-10. Rather, Figure 22 of *Brook, et al.* only discloses the structure of the metadata information.

Also, *Brook, et al.* merely discloses in Figure 24 a directory structure 2400 used in the MOD 512. A directory 2402 is created on the MOD 512 to contain all media files and their associated metadata. The "raw" subdirectory 2204 contains the raw material clips, and all files of different types can be stored in this directory directly, with no further subdirectory being necessary [0288]. The metaDB directory 2410 stores metadata which is associated with corresponding clips [0290].

Thus, Figure 24 of *Brook, et al.* merely discloses the directory structure of MOD 512. Nothing in *Brook, et al.* shows, teaches or suggests (a) recording frame metadata for each frame physically adjacent the video and audio data recorded for each frame and (b) the video and audio data and frame metadata, which have a same reproduction time, are periodically arranged at close positions in a circumferential direction of the optical disk in the form of annular rings

respectively as claimed in claims 1 and 8-10. Rather, *Brook, et al.* only discloses the directory structure of the MOD 512.

Also, *Brook, et al.* merely discloses in Figure 28 a structure of file into which a timeline can be saved. The timeline file 2800 comprises a document header 2802, a video track 2826, and a number of audio and title tracks 2828-2834. The video, title and audio tracks 2826-2834 have respective headers 2804-2812. The video track 2826 comprises a sequence of alternating media and transition objects 2814-2822. The audio track 2828-2830 are similarly constructed. The title tracks 2832-2834 are similarly constructed [0307].

Thus, *Brook, et al.* merely discloses the structure of the file containing a timeline. Nothing in *Brook, et al.* shows, teaches or suggests (a) recording frame metadata for each frame physically adjacent the video and audio data recording for each frame and (b) the video and audio data and frame metadata, which have a same reproduction time, are periodically arranged at close positions in a circumferential direction of the optical disk in the form of annular rings respectively as claimed in claims 1 and 8-10. Rather, *Brook, et al.* merely discloses the structure of a timeline file.

Tezuka, et al. appears to disclose a compact disk CD having digitized audio signals recorded as a plurality of sectional program data on a rotatable disk-like recording medium. The recording format is standardized and the plurality of sectional program data are recorded together with address data along a spiral track on a main annular recording area while table-of-content data (TOC data) identifying the sectional program data in the main recording area are recorded along the spiral track in another annular recording area, termed a lead-in area. Furthermore, another annular area, termed a lead-out area, is formed around the outer periphery of the main recording area. (Col. 1, lines 15-29). The TOC data is stored in a memory during recording of

the program data and after all program data has been recorded, the TOC data is read from the memory and recorded without interruption in the lead-in area 12 up to the beginning of the recording of the program data and the recording area 14 (column 3, lines 29-33). By avoiding a gap or non-recorded region between the TOC data recorded in the lead-in area 12 and the program data recorded in the main annular recording area 14, a writable record disk has a format equal to that of a conventional compact disk and may be reproduced or played back by a conventional CD player. (Col. 6, lines 20-37).

Thus, *Tezuka, et al.* merely discloses a compact disk having a table of contents. Nothing in *Tezuka, et al.* shows, teaches or suggests (a) recording frame metadata for each frame physically adjacent the video and audio data recorded for each frame and (b) the video and audio data and frame metadata, which have a same reproduction time, are periodically arranged at close positions in a circumferential direction of the optical disk in the form of annular rings respectively as claimed in claims 1 and 8-10. Rather, *Tezuka, et al.* only discloses a compact disk having a table of contents.

David appears to disclose a digital video tape recorder recording successive slant tracks on a tape medium in which across a group of one or more slant tracks [0007] at least one independently writable sectors stores metadata associated with the audio and/or video material [0010]. A dedicated sector or sectors - perhaps one or more per slant track or one or more in a group of slant tracks - stores metadata [0012].

Thus, *David* merely discloses a tape recorder storing data onto a tape (not a disk). Nothing in *David* shows, teaches or suggests (a) recording frame metadata for each frame physically adjacent the video and audio data recorded for each frame and (b) the video and audio data and frame metadata, which have a same reproduction time, are periodically arranged at

close positions in a circumferential direction of the optical disk in the form of annular rings respectively as claimed in claims 1 and 8-10. Rather, *David* only discloses a tape storing metadata.

The combination of *Brook, et al.*, *Tezuka, et al.* and *David* would merely suggest storing media files and metadata on MOD 512 with the metadata having the file structure as shown in Figure 2 while the directory of the MOD 512 has the structure shown in Figure 27 and a timeline has the structure shown in Figure 28 as taught by *Brook, et al.*, storing the data on a CD as taught by *Tezuka, et al.* and to store metadata files on a tape as taught by *David*. Thus, nothing in the combination of the references shows, teaches or suggests (a) recording frame metadata physically adjacent the video and audio data and (b) the video and audio data and frame metadata, which have a same reproduction time, are periodically arranged at close positions in a circumferential direction of an optical disk in the form of annular rings respectively as claimed in claims 1 and 8-10. Therefore, Applicants respectfully request the Examiner withdraws the rejection to claims 1 and 8-10 under 35 U.S.C. § 103.

Claims 2-7 depend from claim 1 and recite additional features. Applicants respectfully submit that claims 2-7 would not have been obvious within the meaning of 35 U.S.C. § 103 over *Brook, et al.*, *Tezuka, et al.* and *David* at least for the reasons as set forth above. Therefore, Applicants respectfully request the Examiner withdraws the rejection to claims 2-7 under 35 U.S.C. § 103.

Thus it now appears that the application is in condition for a reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested. Should the Examiner find that the application is not now in condition for allowance, Applicants respectfully request the Examiner enters this Amendment for purposes of appeal.

CONCLUSION

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is requested to contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to Deposit Account No. 50-0320.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 50-0320.

Respectfully submitted,

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